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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/476,241	12/30/1999	TAKAHIRO KIMOTO	P/1909-122	7511

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EXAMINER	
AN, SHAWN S	

ART UNIT	PAPER NUMBER
2613	9

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/476,241	KIMOTO, TAKAHIRO	
	Examiner	Art Unit	
	Shawn S An	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-12 and 14-18* is/are rejected.

7)☒ Claim(s) *13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. As per Applicant's instructions in Paper 8 as filed on 12/8/03, claims 1, 2, and 4-18 have been amended, and claim 3 has been canceled.

Response to Remarks/Arguments

2. Applicant's arguments with respect to claims 1-2 and 4-18 have been considered but are moot in view of the new ground(s) of rejection after careful analysis of Matsumura et al (6,125,144).

Note: since the Examiner has withdrawn most of the objected claims from the Last official action, this official action is made non-final.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2, 4-11, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al (6,125,144) in view of Watanabe et al (4,984,076).

Regarding claims 1-2, 4-11, and 14-18, Matsumura et al discloses a moving picture encoding apparatus, comprising:

block significance determining means (Fig. 1, 107; Fig. 6, 304) for determining block significance for each block as an encoding unit of the input image signals according to predetermined evaluation indices;

map generating means (Fig. 1, 106) for generating a refresh map signal representing priority of refresh for each block;

adaptive refresh signal generating means (107) for referring to refresh priority by the map signal and an allowed number of blocks for refresh processing in a frame to be encoded, and generating a refresh signal for the block; and

moving picture encoding means (102) for generating the block information of an error between frames and a quantity of motion generated during block encoding operation for conducting an intra-frame encoding operation for a block specified by the refresh signal and executing an intra-frame encoding operation or an inter-frame encoding operation for a block not specified by the refresh signal (col. 7, lines 8-19);

wherein the block significance determining means calculates for each block a block feature which is a quantity representing a visual characteristic (variance) of the block (col. 7, lines 52-63), and comparing the block feature with one or more threshold values and thereby generating first block significance for each block (col. 12, lines 39-49);

Matsumura et al does not specifically disclose well known concept of calculating a block feature which is a quantity representing a feature of signal distribution of the block, and/or a quantity indicating power of a signal obtained by passing intra-block signals through a band-pass filter.

However, Watanabe et al teaches conventionally well known concept of a quantity representing a feature of signal distribution of the block (Fig. 1, 12; col. 12,

lines 13-28), and a quantity indicating power of a signal obtained by passing the block signals through a band-pass filter (col. 12, lines 28-50).

Watanabe et al further teaches a conventional image encoder comprising block significance determining means including calculating for each block a quantity of visual deterioration representing a quantity obtained by weighting, power of an error between a block in an image signal and a block in a reference frame (prediction error) obtained by inter-frame processing, the blocks being respectively at the same position, and comparing the quantity of visual deterioration with one or more threshold values and thereby generating another (second) block significance for each block (Fig. 9, 102, 103; col. 6, lines 1-20).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a moving picture encoding apparatus as taught by Matsumura et al to incorporate the conventionally well known concepts as above as taught by the Watanabe et al so as to combine the first block significance with the second block significance, thereby supplying resulting block significance to the map generating means in order to improve the overall quality of the video images in an encoding process, such as proper bit distribution, an accurate/precise assessment of the activity of the blocks, and attenuating undesirable frequencies.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al (6,125,144) in view of Ohki (4,651,206).

Regarding claim 12, Matsumura et al discloses a moving picture encoding apparatus, comprising:

block significance determining means (Fig. 6, 304) for determining block significance for each block as an encoding unit of the input image signals according to predetermined evaluation indices;

map generating means (Fig. 1, 106) for generating a refresh map signal representing priority of refresh for each block;

adaptive refresh signal generating means (107) for referring to refresh priority by the map signal and an allowed number of blocks for refresh processing in a frame to be encoded, and generating a refresh signal for the block; and

moving picture encoding means (102) for generating the block information of an error between frames and a quantity of motion generated during block encoding operation for conducting an intra-frame encoding operation for a block specified by the refresh signal and executing an intra-frame encoding operation or an inter-frame encoding operation for a block not specified by the refresh signal (col. 7, lines 8-19).

Matsumura et al fails to disclose refresh history determining means for temporarily keeping therein the refresh map signal referring to history of the refresh map signal.

However, Ohki teaches conventional refresh history determining means (Fig. 4, 21) for temporarily keeping therein the refresh map signal referring to history of the refresh map signal.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a moving picture encoding apparatus as taught by Matsumura et al to incorporate the refresh history determining means as taught by Ohki so that the Ohki's refresh history determining means can easily include a map history memory which refers to the refresh map signal from the Matsumura's map generating means and the refresh signal from the Matsumura's adaptive refresh signal generating means, thereby updating history, obviously beginning at a start of encoding processing, of the refresh map, and storing the refresh map temporarily for keeping therein the refresh map signal referring to history of the refresh map signal in order to improve the overall quality of the video images in an encoding process.

Allowable Subject Matter

6. Claim 13 is objected to as being dependent upon a rejected base claim 12, but would be allowable:

if claim 13 is rewritten in independent form including all of the limitations of the base claim 12 and any intervening claims.

Dependent claim 13 recites the novel feature of means wherein **the refresh history determining means** includes:

a refresh signal history memory for storing therein history of the refresh signal; and

a map modifying section for referring to the map history stored in the map history memory and the refresh history stored in the refresh signal history memory and thereby modifying forced refresh priority indicated by the refresh map signal from the map generating means.

The art of record fails to anticipate or make obvious the novel feature as specified directly above. Accordingly, if the amendments are made to the claims listed above, and if rejected claims are canceled, the application would be placed in condition for allowance.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Miyamoto (6,574,277 B1), Moving picture coding apparatus and method.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn S An whose telephone number is 703-305-0099. The examiner can normally be reached on Flex hours (10).

9. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHAWN S.
PATENT EXAMINER

SSA
Primary Patent Examiner
2/21/04